

REPORT ON EXPERIMENTS

DEMONSTRATIONS

IRISH LAND COMMISSION

(AGRICULTURAL DEPARTMENT),

DURING THE SEASON OF 1895

ON THE PREVENTION OF

POTATO DISEASE.

Presented to both Houses of Parliament by Command of Her Majesty.



DUBLIN:

PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
BY ALEXANDER THOM & CO (LIMITED)

And to be purchased, either directly or through any Bookseller, from
HODGES, FROST, and Co (Limited), 104, Grafton-street, Dublin, or
Eyre and Spottiswoode, East Harding-street, Fleet-street E.C., or
JAMES MENZIES and Co, 12, Hanover-street, Edinburgh, and 90, West Nile-street, Glasgow.

1896.

SALE OF GOVERNMENT PUBLICATIONS

STATISTICAL

made in the United Kingdom with British Possessions and Foreign Countries, showing the Quantity and Value of the A. Notes

ALL REPORTS to the Board, Cohens, with information relative to population and general condition. These Reports by Her Majesty's Representatives in Foreign Courts and Consuls, and by the

and Fish, being inputs of the Chesapeake Trunk which have taken place between 1850 and the year 1900. The latter includes the migration of a Germanic population to the land from the

REPORT OF EXPERIMENTS

AND

DEMONSTRATIONS

CONDUCTED BY THE

IRISH LAND COMMISSION

(AGRICULTURAL DEPARTMENT),

DURING THE SEASON OF 1895

IN THE PREVENTION OF

POTATO DISEASE.

Presented to both Houses of Parliament by Command of Her Majesty.



DUBLIN:

PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
BY ALEXANDER THOM & CO. (LIMITED).

And to be purchased, either directly or through any Bookseller, from
HOBBS, FROGS, and Co. (Limited), 104, Grafton-street, Dublin; or
EYAN and SPOTTISWOODE, East Harding-street, Fleet-street, E.C.; or
JOHN MENZIES and Co., 12, Hanover-street, Edinburgh, and 90, West Nile-street, Glasgow.

1896.

REPORT.

Irish Land Commission,

Agricultural Department,

Dublin, 13th March, 1896.

Sir,

I have the honour to state, for the information of His Excellency the Lord Lieutenant, that, in accordance with instructions received, the Agricultural Department of the Irish Land Commission carried out a series of field demonstrations during the summer and autumn of 1895, for the purpose of demonstrating to agriculturists the method of application of Bordeaux Mixture to the potato plant for the prevention of potato diseases, and the advantages which may be derived thereby.

Demonstrations were conducted by the late Mr. Thomas S. Dunne, who acted in a similar capacity for this Department in 1894, on fourteen holdings in the counties of Down and Antrim, and by Mr. J. H. McConnell, Assistant Land Commissioner, and Mr. John F. Adams, who was specially employed for the purpose, on fifty-nine holdings in the districts of Galway, Tipperary, and King's counties, adjoining Parsonstown and Banagher.

Districts
selected.

The Bordeaux mixture used for the demonstrations carried out in the latter counties was made with Copper Sulphate and Lime; the Bordeaux mixtures used for the Antrim and Down demonstrations were made with (1) Copper Sulphate and Lime, (2) Strawsonite, (3) Harrington's Powder, and (4) Harrington's Paste.

Mixtures
applied.

The Copper Sulphate used was supplied by Messrs. Harrington Brothers, of the Shandon Chemical Works, Cork, who also supplied Harrington's Paste and Harrington's Powder, these articles being specially prepared by that firm. Strawsonite was obtained through Messrs. Thomas McKennie and Sons, of Great Brunswick-street, Dublin.

As a rule the Bordeaux mixtures made with Copper Sulphate, Strawsonite, or Harrington's Powder consisted of two parts by weight of either of those ingredients mixed with one hundred parts by weight of cold water, and that made with Harrington's Paste consisted of four parts by weight of paste mixed with one hundred parts by weight of water, mixtures prepared in the proportions stated being called "two per cent.," and containing equivalent quantities of copper. In some instances a mixture containing one and a half parts by weight of Copper Sulphate, Strawsonite, or Harrington's Powder, or three parts by weight of Harrington's Paste, to one hundred parts by weight of water was used, the mixtures prepared in such proportions being described as "one and a half per cent." It is to be observed that the proportions of water and other ingredients as stated above, do not accurately constitute one and a half or two per cent. mixtures as the case may be, but are sufficiently accurate for practical purposes, and may be readily measured by any intelligent workman.

Strength of
Mixtures
used.

The Bordeaux mixtures made with Copper Sulphate and Lime were prepared in accordance with the instructions contained in the leaflet issued by this Department, a copy of which is enclosed with this report.

The Bordeaux Mixtures were applied by means of Vermorel's "Eclair" Knapsack sprayers. The machines used worked satisfactorily and proved efficient in every respect. As a rule the foliage was sprayed both from above and from below, but in some instances in which it was particularly dense, it was sprayed only from above.

Method of
Application.

Special
experiments
in Antrim
and Down.

On nine holdings in Antrim and Down a special series of experiments were conducted with a view to testing the relative merits of Bordeaux mixtures made with (1) Copper Sulphate and Lime, (2) Strawsonite, (3) Harrington's Powder, and (4) Harrington's Paste. Care was exercised in the selection of each series of five plots, that the conditions as to soil, situation, and cultivation should vary as little as possible. Equal quantities per acre of Bordeaux mixtures of equal strength were applied to the several plots in each series.

Amount of
Mixture
applied.

The amount of dressing applied per statute acre varied from eighty to one hundred and fifty gallons, in proportion to the extent to which the foliage had developed.

During October the produce of one perch of each of the treated plots in Down and Antrim, and of twenty-five out of the fifty-nine treated plots in Tipperary, Galway, and King's Counties, was carefully dug and weighed, the sound produce being sorted as "marketable" and "small," and compared with the produce of adjoining untreated plots. From the results so ascertained the estimated yields per statute acre were calculated. In order to guard against error, the produce of one-half perch was dug in two different parts of each plot, and if any serious discrepancy was observable in the produce on each half perch thus ascertained, the produce of another perch was dug. The time at his disposal did not permit Mr. Adams to ascertain the results in all the cases in which demonstrations had been carried out in the Banagher district; but those of which results were recorded were not specially selected.

General
Remarks

Down and Antrim Demonstrations and Experiments.—In addition to the special series of experiments already referred to, a number of other plots were sprayed with Bordeaux Mixtures prepared with one or other of the ingredients used for the experimental plots; full particulars of the results of these demonstrations and experiments are given in the Appendix to this Report, in addition to which a summary is provided (see pp. 22 and 23), setting forth in tabulated form, the results obtained with respect to each variety of potato treated. Fifty-six plots in all were sprayed; the increased yield of sound potatoes on the treated as compared with the untreated plots

Exceeded five tons per statute acre in two cases.				
"	four	"	"	three cases.
"	three	"	"	twenty-two cases.
"	two	"	"	forty-one "
"	one	"	"	forty-eight "

The results obtained appear to indicate that although in most instances the treated plots gave a decided increase in yield as compared with the untreated plots, yet no distinct advantage can be traced to the use of any one of the ingredients used as compared with any other. In deciding as to the most suitable material from which to make Bordeaux Mixture, it would seem that agriculturists should be guided mainly by the relative cost at which the materials can be provided, and the facilities which they respectively offer in each particular case for the preparation of Bordeaux Mixture. For the purpose of comparing the relative cost of Bordeaux Mixtures prepared respectively with each of the different ingredients referred to, it would perhaps be convenient to estimate the cost of preparation of 120 gallons of each such mixture, that being about the average quantity required per statute acre for the first dressing applied to a well grown crop of Champions.

Strawsonite and Harrington's preparations were offered for sale to the public during the year 1895 at the following prices:—

Strawsonite, in 40 lb. packages,	.	.	.	13s. each.
Do., per cwt.,	.	.	.	36s.
Harrington's Potato Blight Powder, in 40 lb. packages,	.	.	.	12s. each.
Do., do., in 1 cwt. kegs,	.	.	.	32s. per cwt.
Do., do., 3 to 5 cwt. casks,	.	.	.	31s. do.
Harrington's Potato Blight Paste, in 1 cwt. kegs,	.	.	.	16s. do.
Do., do., 3 to 5 cwt. casks,	.	.	.	15s. do.

Strawsonite was obtainable at the prices above referred to from agents in most of the principal towns in Ireland.

Harrington's Potato Blight Powder and Paste, manufactured at the Shandon Chemical Works, Cork, were placed in the market for the first time last year, and were offered to the public at the rates quoted above, carriage being paid for quantities of 1 cwt. and upwards to any railway station in Ireland to which there were through rates from Cork. The prices above quoted include cost of packages in all cases.

The price of pure Copper Sulphate in crystals in quantities of 1 cwt. and upwards, carriage paid to any railway station in Ireland, was about 24s. per cwt. in 1895.

In comparing the cost of a Bordeaux Mixture made with Copper Sulphate and Lime with that of Bordeaux Mixtures prepared with Strawsonite or either of Harrington's preparations, it must be remembered that pure Lime is necessary for use with Copper Sulphate, and if pure unslaked lime cannot readily be obtained in any district, the cost of the mixture prepared from Copper Sulphate and Lime may thereby be considerably increased, to such an extent indeed that it may be more economical to use Strawsonite or either of Harrington's preparations, in using which lime is not required. Assuming, however, that well-burnt lime of good quality is easily obtainable at a cheap rate, and that its value need not therefore be taken into consideration, and calculating the cost of the various ingredients at the rates already quoted for quantities of 1 cwt., 120 gallons of Bordeaux Mixture prepared from each of these materials would cost as follows:—

Prepared with Strawsonite,	s. d.
Prepared with Harrington's Powder or Paste,	7 9
Prepared with Copper Sulphate and Lime,	6 11
	5 2

The cost of labour for the application of 120 gallons to a statute acre would be about from 3s. to 4s.

It would seem that for those who have a considerable area of potatoes on which to operate, it is decidedly advantageous to prepare the mixture with Copper Sulphate and Lime, provided that lime of good quality can be readily obtained at a moderate price; but for those who have only small areas to treat, say one or two acres, or for those who cannot readily obtain suitable lime or who cannot conveniently provide suitable vessels for the preparation of a Copper Sulphate and Lime mixture, considerable trouble will be saved by using either Strawsonite or one of Harrington's preparations.

In the Tables relating to these experiments the estimated quantities of diseased potatoes per statute acre calculated from the quantity ascertained to be present in each plot at the time of digging are given. It is however to be observed that little value should be attached to this information. The important fact to the grower is the value of the sound potatoes produced—in other words, their quantity, size, and quality. Erroneous deductions are frequently arrived at from statistics as to the quantity of diseased potatoes found at the time of digging. When potato disease has been virulent, and has attacked the plant at an early period in its growth, a considerable quantity of diseased potatoes rot in the ground; in those districts, such as the seaboard of the south-west of Ireland, in which potato disease usually appears at the end of June, before the tubers of late varieties have grown to any considerable size, those tubers which are attacked by disease at any early stage of growth will have rotted away to a very large extent before the time of digging. In such instances the produce of sound potatoes might not exceed two tons per statute acre, and yet but few diseased tubers would be raised at the time of harvesting, the tubers having been attacked by disease at such an early stage that they rotted away before the usual period of harvesting. On the other hand, if a crop has not been affected by disease until the end of July or August, the number of partially diseased potatoes which would be found at the time of digging might be considerable, while the produce of sound potatoes might equal that of an average crop.

Galway, Tipperary, and King's Co. Demonstrations:—Particulars of the results obtained in twenty-five of the fifty-nine demonstrations conducted in those counties are given at pp. 24 and 25 of the Appendix. Of the twenty-five cases referred to, the increased yield of sound potatoes of the sprayed as compared with the unsprayed plots

Exceeded four tons per statute acre in three cases;			
Do.	three	do.	do.
Do.	two	do.	do.
Do.	one	do.	do.
Exceeded ten tons per statute acre in three cases;			
Do.	three	do.	do.
Do.	two	do.	do.
Do.	one	do.	do.
Exceeded sixteen tons per statute acre in one case;			
Do.	one	do.	do.
Exceeded twenty-one tons per statute acre in one case;			
Do.	one	do.	do.

whereas a decrease in yield resulted in one case.

The experiments and demonstrations carried out by this Department during the season of 1895 confirm the experience gained by the experiments conducted in previous years, namely—that the proper application of a correctly prepared Bordeaux Mixture to the potato crop by means of suitable spraying machines before the appearance of disease though not entirely preventive of disease, has a marked effect in lessening the loss in yield and quality that usually results therefrom, and that under such circumstances the increase of yield due to spraying usually considerably more than pays for the cost of application. During 1895, as in former years, disease has been more or less prevalent in those districts in which experiments or demonstrations in connection with potato spraying have been carried out for the Irish Land Commission; consequently no results have been obtained in cases where disease did not to some extent manifest itself.

I have the honour to be,

Sir,

Your obedient servant,

(Signed), J. H. FRANKS.

To the Under Secretary
to the Lord Lieutenant,
Dublin Castle.

APPENDIX
TO THE
REPORT OF EXPERIMENTS.

Experiment No. I.

COUNTY DOWN.

Name—MR. WILLIAM TAYLOR.

Address—Greyabbey.

Area of each plot,	One statute rood.
Date of first dressing,	4th July.
Weather at time of first dressing,	Fine and sunny.
Appearance of crop,	Healthy; not full grown.
Quantity of Bordeaux Mixture applied per statute acre,	100 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of second dressing,	2nd August.
Weather at time of second dressing,	Dry but afterwards showery.
Appearance of crop,	Foliage considerably developed; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	100 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Principally from above.
Date of digging plots,	3rd October.
Remarks as to the general appearance of the crop in the trial plots at time of digging.	Sprayed portion quite green; unsprayed portion quite withered and ripe.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to Water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes			Increased yield of Sound Potatoes on sprayed Plot as compared with the yield of some variety on Unsprayed plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated,	Magnum Bonum	7 0 1	2 1 0	9 1 1	—	—	—	9 4 3
2	Sulphate of Copper and Lime,	do.	22 8 6	2 3 6	25 2 0	2 14 3	—	2 14 3	—
3	Stramoniacs,	do.	22 12 15	2 7 15	25 0 0	3 2 9	—	3 2 9	4 1 4
4	Harrington's Powder,	do.	21 4 3	1 15 6	22 9 9	1 10 9	—	1 10 9	2 2 9
5	Harrington's Paste,	do.	11 14 3	1 15 8	13 0 1	2 0 9	—	2 0 9	3 1 4
6	Untreated,	Champion	7 2 9	1 2 8	8 5 7	—	—	—	4 2 6
7	Sulphate of Copper and Lime,	do.	11 14 3	2 3 6	14 2 9	4 11 3	1 2 9	5 14 3	1 5 4

Experiment No. II.

COUNTY DOWN.

NAME—MR. WILLIAM GIBSON, J.P.

Address—Ballywalter.

Area of each plot, One statute rood.
 Date of first dressing, 5th July.
 Weather at time of first dressing, Dry and sunny.
 Appearance of crop, Healthy and growing.
 Quantity of Bordeaux Mixture applied per statute acre, 100 gallons.
 Whether foliage was sprayed from above only; from below only; or both from above and below. Both from above and below.

Date of second dressing, 1st August.
 Weather at time of second dressing, Dry, but blowing
 Appearance of crop, Foliage very rank and overgrown; no disease.
 Quantity of Bordeaux Mixture applied per statute acre, 120 gallons.
 Whether foliage was sprayed from above only; from below only; or both from above and below. From above only.

Date of digging plots, 2nd October.
 General remarks, These potatoes were grown on rich land, where the previous year's crop had been turnips. In addition to this, they were heavily manured with nitrate of soda and superphosphate; and at the time of the second dressing the foliage was completely developed. To the foliage being so soft and rank is attributed the absence of satisfactory results.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Tons	Ingredients used	Variety of Potato	Produce of Sound Potatoes.			Increased yield of Sound Potatoes on Sprayed Plot as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes.
			Marketable	Small	Total	Marketable	Small	Yield.	
1	Untreated.	Champion. .	7 12 45	2 11 45	11 2 30	—	—	—	1 5 30
2	Sulphate of Copper and Lime. .	do	7 12 45	4 10 0	12 1 45	—	0 12 34	0 15 24	0 12 36
3	Blue vitriol.	do.	7 2 50	4 10 30	11 13 20	—	1 4 32	0 25 36	1 0 0
4	Harrington's Powder. . .	do.	3 5 30	4 10 0	12 13 30	0 14 22	0 15 06	1 12 30	1 1 45
5	Harrington's Powder. . . .	do.	3 1 45	2 11 45	12 11 30	0 10 0	—	0 10 0	0 12 36
1	Untreated.	Magnum Bonum	5 2 36	1 17 16	8 0 0	—	—	—	—
2	Stramonite.	do.	6 2 04	1 14 20	5 2 36	0 2 36	—	0 2 36	—

Experiment No. III.

COUNTY DOWN.

Name—Mr. W. S. Young, J.R.

Address—Granshaw, Kincubla.

Area of each plot,	One statute rood.
Date of first dressing,	6th July.
Weather at time of first dressing,	Fine and dry.
Appearance of crop,	Nice and healthy.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only, from below only, or both from above and below.	Both from above and below.
Date of second dressing,	31st July.
Weather at time of second dressing,	A fine sunny day.
Appearance of crop,	Good, and not overgrown; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only, from below only, or both from above and below.	Both from above and below.
Date of digging plots,	1st October, 1895.
General remarks,	This field being so very uniform in quality was exceptionally suitable as a test field. The sprayed portion remained green for three weeks after the unsprayed had withered.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes.			Increased Yield of Sound Potatoes on sprayed Plot as compared with the yield of same variety on unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated,	Magnum Bonum	T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.
2	Sulphate of Copper and Lime,	do.	13 1 25	1 18 06	14 9 0	—	—	—	0 2 36
3	Stearate,	do.	30 9 0	1 9 0	32 0 0	1 18 06	—	2 0 0	—
4	Stearate,	do.	13 15 80	1 11 45	15 7 35	2 16 22	—	2 7 14	—
5	Harrington's Fovex,	do.	18 1 46	1 5 60	19 7 36	2 0 0	—	2 7 16	0 1 08
6	Harrington's Paste,	do.	14 15 80	1 8 20	16 0 0	2 16 22	—	2 0 0	0 1 08

Experiment No. IV.

COUNTY ANTRIM

Name—Mr. JOHN McCLELLAND. Address—Brackenhill House, Ballyclare.

Area of each plot,	One half rood (statute).
Date of first dressing,	19th July.
Weather at time of first dressing,	Wet, and exceptionally heavy rain fell immediately after.
Appearance of crop,	Healthy; large foliage.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of second dressing,	3rd August.
Weather at time of second dressing,	Drizzling rain.
Appearance of crop,	Healthy, and well grown; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Principally from above.
Date of digging plots,	4th October.
General remarks,	This was an instance of the good results of spraying even when the dressing took place during most unfavourable weather. The sprayed portion at the time of harvesting was much greener than the unsprayed.

TABLES indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging:—

Number of Plot.	Ingredients used.	Variety of potato.	Produce of Sound Potatoes			Decreased Yield of Sound Potatoes on sprayed Plot as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
			T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.
1	Untreated,	Champion, . .	5 2 26	2 4 32	7 7 18	—	—	—	6 1 48
2	Sulphate of Copper and Lime, . .	do., . .	5 12 36	2 5 36	10 18 64	2 16 0	0 1 48	3 18 48	—
3	Silver-salts	do., . .	5 16 66	1 14 32	10 12 36	2 18 50	—	3 5 50	6 1 48
4	Shearwater's Powder,	do., . .	5 14 32	2 4 32	10 25 64	3 11 55	—	3 11 48	—
5	Harrington's Paste,	do., . .	5 0 0	1 16 32	9 14 32	2 27 56	—	2 7 16	—

Experiment No. V.

COUNTY ANTRIM.

Name—*Ms. ROSEY ARTHUR*. Address—*Dunard, Broughshane*.

Area of each plot,	One statute rood.
Date of first dressing,	10th July.
Weather at time of first dressing,	Slight showers.
Appearance of crop,	Good and healthy.
Quantity of Bordeaux Mixture applied per statute acre,	120 gals.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of second dressing,	6th August.
Weather at time of second dressing,	Damp and showery.
Appearance of crop,	Healthy and not overgrown; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	120 gals.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of digging plots,	5th October.
General Remarks,	The largest yield was obtained on a plot of "Sutton's Abundance."

Table indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small, the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes			Increased yield of Sound Potatoes of Sprayed Plot as compared with the yield of same variety on Unsprayed Plot			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
			<i>T. C. L.</i>	<i>T. C. L.</i>	<i>T. C. L.</i>	<i>T. C. L.</i>	<i>T. C. L.</i>	<i>T. C. L.</i>	<i>T. C. L.</i>
1	Untreated,	Cassopiae,	5 2 96	2 2 64	10 11 18	—	—	—	6 7 18
2	Sulphate of Copper and Lime,	Do,	13 12 96	5 17 14	15 10 5	2 20 5	5 3 64	2 13 64	—
3	Silver-salts,	Do,	11 15 86	1 18 64	13 27 16	2 14 30	—	5 3 30	—
4	Theriacal Powder,	Do,	10 17 16	2 5 68	13 5 30	2 14 32	—	2 14 32	—
5	Untreated,	Sutton's Abundance,	20 5 30	0 5 30	20 11 12	—	—	—	5 7 16
6	Theriacal Powder,	Do,	15 2 96	0 13 12	15 14 24	4 27 16	5 5 30	5 2 30	5 1 16

Experiment No. VI.

COUNTY ANTRIM.

Name—Mr. J. S. ALEXANDER.

Address—The Castle, Portloughra.

Area of each plot,	One-half statute rood.
Date of first dressing,	13th July.
Weather at time of first dressing,	Dry.
Appearance of crop,	Healthy; large foliage.
Quantity of Bordeaux Mixture applied per statute acre,	140 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of second dressing,	16th August.
Weather at time of second dressing,	Dry and fine.
Appearance of crop,	Well-grown; slight indications of disease.
Quantity of Bordeaux Mixture applied per statute acre,	140 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	From above only.
Date of digging plots,	7th October.
General Remarks,	This field, which is very hilly, is situated near a plantation run over with rabbits and gams.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato, and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes.			Increased yield of Sound Potatoes on Sprayed Plot as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated,	Champion,	T. C. L. 7 1 48	T. C. L. 3 14 32	T. C. L. 3 12 39	T. C. L. —	T. C. L. —	T. C. L. —	T. C. L. 3 7 35
2	Sulphate of Copper and Lime,	do.,	19 5 30	2 4 30	12 13 45	3 4 42	0 31 42	3 25 39	0 4 32
3	Strawson's,	do.,	3 5 30	2 22 36	19 13 04	1 4 32	0 13 66	2 3 05	0 2 05
4	Harrington's Powder,	do.,	10 4 32	2 4 3	12 4 32	3 3 36	0 5 50	3 3 64	0 1 48
5	Harrington's Paste,	do.,	2 15 30	1 15 66	13 16 39	3 14 32	0 4 32	3 15 04	0 6 30
1	Untreated,	Antrim,	7 17 15	0 12 08	3 15 38	—	—	—	0 1 45
2	Sulphate of Copper and Lime,	do.,	18 12 36	1 13 0	12 3 36	3 15 30	0 12 45	3 3 15	—

Experiment No. VII.

COUNTY ANTRIM.

Name—	Ma. JOHN BORN.	Address—	Terrygowan, Randalstown.
Area of each plot,	One statute rood.	
Date of first dressing,	23rd July.	
Weather at time of first dressing,	Fine and dry.	
Appearance of crop,	Good and healthy.	
Quantity of Bordeaux Mixture applied per statute acre,		120 gallons.	
Whether foliage was sprayed from above only; from below only; or both from above and below.		Both from above and below.	
Date of second dressing,	15th August.	
Weather at time of second dressing,	Wet.	
Appearance of crop,	Slight indications of disease.	
Quantity of Bordeaux Mixture applied per statute acre,		120 gallons.	
Whether foliage was sprayed from above only; from below only; or both from above and below.		Both from above and below.	
Date of digging plots,	8th October.	
General Remarks,	On the date of digging the sprayed portion appeared only a little greener than the unsprayed; this was probably due to the very wet weather at the time of the second spraying.	

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants, the variety of potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes.			Increased yield of Sound Potatoes as sprayed Plot as compared with the yield of same variety as Unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated,	Champion,	5 6 3	2 6 1	7 6 2	5 6 3	2 6 1	7 6 2	5 6 2
2	Sulphate of Copper and Lime, do., .		5 12 64	2 12 33	5 14 33	—	—	—	1 12 64
3	Sulphate of Copper and Lime, do., .		7 12 4	3 12 32	11 4 32	1 12 46	0 12 44	2 30 6	0 5 33
4	Strawman,	do., .	7 7 13	3 12 32	11 3 43	1 2 52	0 12 52	2 7 16	0 12 4
5	Ellington's Powder,	do., .	5 4 32	4 6 9	12 4 32	2 5 53	1 4 32	3 12 5	0 12 32
6	Harrington's Paste,	do., .	7 3 9	2 7 15	10 7 15	1 1 43	0 12 45	1 12 36	0 2 35
1	Untreated,	Bruce, .	5 3 64	1 12 13	13 3 39	—	—	—	2 1 13
2	Sulphate of Copper and Lime, do., .		10 1 43	2 1 43	22 2 36	0 12 36	0 4 32	0 17 13	—

Experiment No. VIII.

COUNTY ANTRIM.

Name—MR. JAMES KENNEDY, JR.

Address—Ballee, Ballymena.

Area of each plot,	One statute rood.
Date of first dressing,	12th July.
Weather at time of first dressing,	Dry and fine.
Appearance of crop,	Good and healthy.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of second dressing,	7th August.
Weather at time of second dressing,	Dry and fine.
Appearance of crop,	Very large and fully developed; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	From above only.
Date of digging plots,	24th October.
General remarks,	The foliage of Plot No. 3 turned out overgrown and more luxuriant than in the other plots, which probably accounts for the small increase here obtained from Strawmanite, as compared with that obtained from the other dressings.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients Used.	Variety of Potato.	Produce of Sound Potatoes.			Increased yield of Sound Potatoes on Sprayed Plot as compared with the yield of same Variety on Unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated,	Charlotte,	7 0 1.	2 0 1.	9 0 1.	—	—	—	9 15 30
2	Sulphate of Copper and Lime,	do.,	2 5 30	2 0 6	11 5 30	3 32 30	—	3 7 14	—
3	Strawmanite,	do.,	7 7 15	2 2 06	9 16 9	1 14 32	—	1 11 45	0 4 32
4	Borlough's Powder,	do.,	9 15 0	2 0 6	11 15 0	3 17 16	—	3 7 16	0 4 32

C

Experiment No. IX.

COUNTY ANTRIM.

Name—Mr. JAMES MORRISON.

Address—Belish, Crookedstone.

Area of each plot, One statute rood.
 Date of first dressing, 22nd July.
 Weather at time of first dressing, Fine; only one slight shower.
 Appearance of crop, Backward, but healthy.
 Quantity of Bordeaux Mixture applied per statute acre, 80 gallons.
 Whether foliage was sprayed from above only; from below only; or both from above and below. Both from above and below.
 Date of second dressing, 18th August.
 Weather at time of second dressing, Fine and dry.
 Appearance of crop, Healthy and growing; no disease.
 Quantity of Bordeaux Mixture applied per statute acre, 80 gallons.
 Whether foliage was sprayed from above only; from below only; or both from above and below. Both from above and below.
 Date of digging plots, 10th October.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used	Variety of Potato.	Produce of Sound Potatoes			Increased yield of Sound Potatoes on Sprayed Plot as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated.	Champion. .	4 7 34	2 6 6	7 7 15	—	—	—	0 14 23
2	Sulphate of Copper and Lime. .	do. .	4 7 35	2 4 22	7 12 45	—	0 4 22	0 4 22	0 2 24
3	Sheepscote.	do. .	2 4 22	2 2 06	5 7 15	0 17 14	0 2 06	1 0 0	0 2 20
1	Catnip.	Marston Broom.	4 3 64	1 2 20	5 11 45	—	—	—	0 1 43
2	Harrington's Powder.	do. .	3 39 0	2 7 23	10 17 35	2 1 43	0 4 22	2 5 30	—
3	Harrington's Paste.	do. .	7 0 0	1 15 30	8 15 30	0 11 45	—	0 4 22	—
1	Untreated.	Skinner. .	3 4 33	2 15 33	6 0 0	—	—	—	—
2	Harrington's Paste.	do. .	5 4 22	2 6 0	8 4 22	2 0 0	—	2 4 22	—

Experiment No. X.

COUNTY ANTRIM.

Name—Mr. JOHN YOUNG.

Address—Niblock, Antrim.

Area of each plot,	One statute rood.
Date of first dressing,	24th July.
Weather at time of first dressing,	Fine and dry.
Appearance of crop,	Backward, but very healthy.
Quantity of Bordeaux Mixture applied per statute acre;	100 gallons.
Whether foliage was sprayed from above only, from below only, or both from above and below.	Both from above and below.
Date of second dressing,	14th August.
Weather at time of second dressing,	Fine; some showers the following day.
Appearance of crop,	Very luxuriant; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only, from below only, or both from above and below.	From above only.
Date of digging plots,	11th October.
General remarks,	The field on which these experiments were held was an old meadow, low-lying, sheltered, and very rich. The potatoes were late in being planted, and owing to dry weather made a bad start; when rain came, however, they grew very rapidly. At the date of harvesting there was not a green leaf or stalk to be seen on the unsprayed portion of the field, while the sprayed portions were still quite green.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes.			Increased yield of Sound Potatoes on Sprayed Plot as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
			T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.
1	Untreated,	Champion, . .	3 7 35	2 5 30	5 12 65	—	—	—	0 25 64
2	Sulphate of Copper and Lime,	Do, . .	4 19 0	2 12 05	5 2 25	2 2 55	5 7 35	2 10 4	0 4 35
3	Strawsonite,	Do, . .	4 17 35	2 2 55	5 0 0	2 13 0	—	2 7 15	0 5 35
4	Harrington's Powder,	Do, . .	4 2 35	2 15 35	5 18 55	2 15 35	0 16 3	2 5 35	0 3 64
5	Essex's Patent,	Do, . .	7 0 0	2 13 0	5 13 0	2 12 55	0 4 35	3 17 35	0 5 10

Experiment No. XI.

COUNTY ANTRIM.

Name—Mr. JOHN MINGAY, J.P.

Address—Ballyisland, Ballymoney.

Area of each plot,	One statute rood.
Date of first dressing,	18th July.
Weather at time of first dressing,	Day fine and dry; heavy rain at night.
Appearance of crop,	Healthy.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of second dressing,	9th August.
Weather at time of second dressing,	Heavy showers all day.
Appearance of crop,	Healthy; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	120 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below.
Date of digging plots,	12th October.
General remarks,	It is believed that the results would have been even more satisfactory but for the wet weather at the time of the second dressing.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes.			Increased yield of Sound Potatoes on Sprayed Plot as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated,	Marston Magnum.	7 0 0	0 35 0	12 35 0	—	—	—	0 1 48
2	Sulphate of Copper and Lime,	do.	33 0 0	0 20 0	13 20 0	2 39 0	—	2 1 48	—
3	Silverworts,	do.	22 27 16	0 27 16	13 54 32	2 7 16	—	2 5 30	—
4	Harrington's Powder,	do.	54 10 0	0 25 0	35 0 0	4 0 0	—	2 11 48	—
5	Harrington's Paste,	do.	36 0 0	0 17 16	34 17 16	3 20 0	—	2 5 31	0 2 36
1	Untreated,	Charleston,	5 5 54	2 1 48	10 15 0	—	—	—	0 11 48
2	Sulphate of Copper and Lime,	do.	12 4 32	1 36 20	13 15 52	1 15 52	—	1 5 52	0 1 48

Experiment No. XII.

COUNTY ANTRIM.

Name—MR. JAMES M'CLURE.

Address—Stroom, Derry.

Area of each plot, One statute rood.
 Date of first dressing, 17th July.
 Weather at time of first dressing, Fine and dry.
 Appearance of crop, Good and healthy.
 Quantity of Bordeaux Mixture applied per statute acre, 120 gallons.
 Whether foliage was sprayed from above only; from below only; or both from above and below. Both from above and below.
 Date of second dressing, 10th August.
 Weather at time of second dressing, Fine and dry.
 Appearance of crop, Very healthy; no disease.
 Quantity of Bordeaux Mixture applied per statute acre, 120 gallons.
 Whether foliage was sprayed from above only; from below only; or both from above and below. Both from above and below.
 Date of digging plots, 14th October.
 General remarks, The sprayed plots retained their green appearance for three or four weeks longer than the unsprayed.

TABLES following, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes.			Increased yield of Sound Potatoes as Sprayed Plot as compared with the yield of same variety as Unsprayed Plot			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
			T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.
1	Untreated,	MAIDEN FORM.	11 2 96	1 6 9	12 8 96	—	—	—	0 1 48
2	Sulphate of Copper and Lime,	do.	12 5 80	1 9 0	14 5 80	1 2 96	—	1 2 96	—
3	Brownholt's,	do.	14 12 96	0 17 36	15 10 36	2 16 36	—	2 16 36	—
4	Harrington's Favorite,	do.	14 13 64	1 0 0	15 13 64	2 16 80	—	2 16 80	—
5	Harrington's Paste,	do.	13 12 96	1 5 00	14 17 96	2 16 0	0 5 36	2 21 36	—

Experiment No. XIII.

COUNTY ANTRIM.

Name—MR. F. S. HENDERSON.

Address—Ballyventres, Parkgate.

Area of each plot,	One and a half statute roods.
Date of first dressing,	20th July.
Weather at time of first dressing,	Damp.
Appearance of crop,	Very luxuriant.
Quantity of Bordeaux Mixture applied per statute acre,	Sutton's, 120 gallons; Champions, 150 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below.	Both from above and below as far as possible.
Date of second dressing,	15th August.
Weather at time of second dressing,	Dry, but very heavy rain shortly afterwards.
Appearance of crop,	Foliage fully developed; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	Sutton's, 110 gallons; Champion, 150 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below,	Principally from above.
Date of digging plots	9th October.
General Remarks,	Owing to the foliage being very large and so much spread across the drills it was very difficult to get the plots in this case properly sprayed.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot.	Ingredients used.	Variety of Potato.	Produce of Sound Potatoes.			Increased yield of Sound Potatoes on Sprayed Plot as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes.
			Marketable.	Small.	Total.	Marketable.	Small.	Total.	
1	Untreated,	Champion, .	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.
2	Salphate of Copper and Lime .	do., .	18 T 36	2 0 0	19 T 36	—	—	—	0 2 36
			11 24 96	3 20 04	14 44 00	1 0 50	0 18 04	2 18 54	—
1	Untreated,	Sutton's Abundance	36 4 0	0 17 16	36 21 16	—	—	—	0 15 04
2	Salphate of Copper and Lime, .	do., .	15 T 32	1 0 0	16 T 32	1 T 16	0 2 36	1 19 0	0 2 36

Experiment No. XIV.

COUNTY DOWN.

Name—General NEWMAN.

Address—Portaferry.

Area of each plot,	Three statute rods.
Date of first dressing,	8th July.
Weather at time of first dressing,	Very stormy with heavy showers.
Appearance of crop,	Good and healthy.
Quantity of Bordeaux Mixture applied per statute acre,	110 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below,	Both from above and below.
Date of second dressing,	30th July.
Weather at time of second dressing,	Fine and dry.
Appearance of crop,	Growth of foliage where sprayed not so luxuriant as on the unsprayed portion; no disease.
Quantity of Bordeaux Mixture applied per statute acre,	110 gallons.
Whether foliage was sprayed from above only; from below only; or both from above and below,	Both from above and below.
Date of digging plots,	1st October.
General remarks,	The sprayed plots retained their green appearance for three weeks longer than the unsprayed.

TABLE indicating, with respect to each Experimental Plot, the ingredients used in addition to water for the preparation of the Bordeaux Mixture applied to the foliage of the plants; the variety of Potato grown; the produce in sound potatoes classified as marketable and small; the increase (if any) in yield of sound potatoes of each sprayed as compared with each unsprayed plot of the same variety of potato; and the quantity of diseased potatoes found at time of digging.

Number of Plot	Ingredients used.	Variety of Potato	Produce of Sound Potatoes.			Increased yield of Sound Potatoes on Sprayed Plots as compared with the yield of same variety on Unsprayed Plot.			Diseased Potatoes.
			Market-able.	Small.	Total.	Market-able.	Small.	Total.	
			T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.	T. C. L.
1	Untreated,	Bramble,	13 15 30	8 17 20	14 12 30	—	—	—	0 5 50
2	Sulphate of Copper and Lime,	do.,	15 5 51	0 17 14	17 5 30	2 12 36	—	2 12 36	0 2 30

DOWN AND ANTRIM EXPERIMENTS.

SUMMARY setting forth in tabulated form for convenience of comparison the Results obtained from all Flots planted with a similar variety of Potato.
The largest yield of marketable potatoes in each set of experiments with one variety of potato is printed in heavy type.

CHEAMPION.

Name of Owner of Holding	Produce of Untreated Plot.			Produce of Plot treated with Sulphate of Copper and Lime.			Produce of Plot treated with Stramonium.			Produce of Plot treated with Herring-gut Powder.			Produce of Plot treated with Herring-gut Paste.		
	Marketable	Small	Waste	Marketable	Small	Waste	Marketable	Small	Waste	Marketable	Small	Waste	Marketable	Small	Waste
William Taylor, . . .	7 2 86	1 5 30	4 6 6	11 14 22	2 8 34	1 8 64	—	—	—	—	—	—	—	—	—
WILLIAM GIBSON†	7 11 45	3 11 43	3 2 28	7 11 45	4 13 5	0 22 50	7 2 98	4 15 30	1 8 9	8 8 88	4 10 8	1 1 45	3 1 43	3 11 43	0 22 50
JOHN McFILLANE†	6 2 80	2 4 22	6 1 43	9 22 86	2 5 29	None	8 18 64	1 14 22	4 2 48	8 14 22	2 4 22	None	8 9 9	1 14 22	None
Robert Arkison, . .	8 8 86	2 8 64	8 7 18	10 12 85	3 17 35	None	11 12 64	1 13 64	None	10 17 10	2 8 63	None	—	—	—
J B ALEXANDER†	7 1 45	1 14 22	8 7 18	10 5 89	2 5 83	0 4 25	8 5 88	2 12 86	8 2 96	10 4 42	2 9 8	0 1 48	9 15 88	1 13 64	0 8 89
JOHN BOTT†	8 16 64	2 14 80	3 18 64	7 10 6	3 16 22	0 6 10	7 7 13	2 14 22	8 19 0	8 6 22	4 8 8	0 4 27	7 8 8	3 7 13	0 2 80
James Kinnear, Esq.,	8 12 58	2 6 30	8 13 58	9 8 80	2 9 9	None	7 7 13	2 8 80	8 4 28	9 10 9	2 9 8	0 4 22	—	—	—
James Morrison, . .	4 7 14	3 6 6	8 14 22	6 7 18	3 8 20	0 2 85	8 6 20	3 8 86	0 2 98	—	—	—	—	—	—
JOHN TOUNGL†	8 7 18	2 6 80	8 12 58	8 8 6	2 12 86	0 4 12	8 17 36	2 5 86	8 5 88	8 2 86	2 12 86	0 3 64	7 0 0	2 13 8	0 8 86
John McGraw, . . .	8 8 64	2 4 68	0 11 43	10 6 32	1 16 20	0 1 43	—	—	—	—	—	—	—	—	—
P. B. Bradshaw, . .	18 7 18	3 6 6	0 2 98	11 12 94	2 14 84	None	—	—	—	—	—	—	—	—	—

MAGNUM BONUM.

WILLIAM TAYLOR†	9 14 22	2 10 9	0 4 22	12 8 60	2 2 86	None	13 17 26	2 7 16	0 1 45	11 4 22	1 14 22	0 3 86	11 14 22	1 16 80	9 1 43
William Gibson, . .	8 2 86	1 17 15	None	—	—	—	0 8 64	3 14 22	None	—	—	—	—	—	—
W. S. TOWNSEND†	15 1 45	1 13 68	0 2 86	18 8 6	1 0 6	None	14 14 80	3 11 43	None	16 1 43	1 5 20	0 1 10	15 15 58	1 4 22	8 1 43
James Morrison, . .	8 8 64	2 7 16	0 1 45	—	—	—	—	—	—	8 10 9	2 7 16	None	7 9 9	1 12 80	None
JOHN MCGRAW†	14 16 8	0 12 64	0 1 43	12 6 6	0 10 9	None	12 17 20	8 12 18	None	14 10 9	0 10 6	None	14 6 6	8 17 18	0 2 86
JAMES McFILLANE†	11 8 80	2 8 6	0 2 48	15 8 80	2 8 8	None	16 12 86	8 17 18	None	15 15 64	1 8 8	None	13 13 58	1 5 20	None

INTRODUCTION

	9	8	7	6	5	4	3	2	1	0	Mean
John Boyd	-	-	-	-	-	1	1	1	1	1	1.0
General Menden	-	-	-	-	-	1	1	1	1	1	1.0

RELATIVE ABUNDANCE

[illegible]

ABSTRACT.

[illegible]

ACKNOWLEDGMENTS

[illegible]

* Price dependent on quantity.

Complete series of experiments for testing relative profits of Bophaux Machines made with Copper Sulfate and Zinc, Nitric Acid, Hydrochloric Acid and Tungstic Acid, respectively.

TABLE indicating particulars of Results obtained on certain Plots on Farms in the Districts adjacent to
Prevention of Disease were carried out, for the Irish Land Commission, by

OCCUPERS OF HOLDINGS		Date of Sowing	Date of Raising Plants	Variety of Potatoes Sown	Yield per Statute Acre of Sound Potatoes at Harvest		
Name	Address				Markable	Small	Total
V. McCarthy	Banagher, King's	18th July	18th Oct.	Champion	11 12 64	1 12 0	12 2 64
Stephen Hayes	Kilmore, Carr., Tipperary	18th July	18th Oct.	Champion	5 5 5	1 5 5	5 5 54
Patrick Egan	Craghan, Carr., Tipperary	18th July	18th Oct.	Champion	5 5 5	1 5 5	7 0 0
D. Finney	Rapemore, Carr., King's	11th July, 9th Aug.	18th Oct.	Champion	5 12 50	1 11 48	10 7 10
W. Byrne	Deerfield, Carr., Tipperary	18th July	18th Oct.	Champion	5 5 5	1 10 0	7 10 0
J. Delahanty	Clonsilla, Carr., Tipperary	18th July	22nd Oct.	Champion	5 12 64	1 15 48	10 14 12
Rev. A. Nichols	Banagher, King's	18th July	18th Oct.	Champion	5 12 5	2 11 32	12 4 32
J. McCormack	Clonsilla, Carr., King's	18th July	18th Oct.	Champion	5 11 45	1 0 0	9 11 45
John Gallagher	Clonsilla, Banagher, King's	20th July	22nd Oct.	Champion	5 1 45	1 2 50	9 4 35
Michael Larkin	Baker, Banagher, Galway	22nd July	9th Oct.	Champion	5 5 54	2 0 0	10 5 54
Patrick Egan	Baker, Banagher, Galway	22nd July	9th Oct.	Champion	7 12 45	1 5 50	8 17 30
James King	Lacka, Carr., Tipperary	20th July	22nd Oct.	Champion	12 12 50	1 7 15	12 0 0
Richard Finney	Clonsilla, Carr., Banagher, Galway	22nd July	12th Oct.	Champion	11 11 45	1 10 0	12 1 45
William Quinn	Banestown, Carr., King's	9th Aug.	20th Oct.	Champion	11 4 32	1 2 50	12 7 12
James Deane	Cloghan Hill, Carr., King's	9th Aug.	18th Oct.	Champion	9 5 54	5 12 54	19 7 45
J. Moran	Lonsdon, Carr., King's	7th Aug.	18th Oct.	Champion	5 7 15	5 14 32	12 1 15
James Troy	Lonsdon, Banagher, King's	18th Aug.	18th Oct.	Champion	5 12 50	5 10 50	5 5 54
W. Williams	The Pits, Carr., Banagher, King's	18th Aug.	18th Oct.	Champion	7 5 54	1 11 45	9 0 8
Michael Ryan	Freemore, Banagher, King's	18th Aug.	22nd Oct.	Champion	12 7 15	1 11 45	12 5 54
John Higgins	Freemore, Banagher, Galway	18th Aug.	17th Oct.	Champion	9 12 50	1 5 54	11 1 54
Richard Howard	Webster, Carr., Galway	20th Aug.	17th Oct.	Champion	5 7 15	1 7 15	9 14 25
Charles Finney	Rushmore, Carr., Galway	20th Aug.	18th Oct.	Champion	5 12 54	1 15 50	10 14 25
Thomas Deane	Whymore, Carr., Carr., King's	20th Aug.	22nd Oct.	Champion	5 7 15	5 12 54	9 5 50
Michael Burke	Galway, Banagher, King's	20th Aug.	20th Oct.	Champion	5 12 10	1 5 5	7 17 35
Michael Griffin	Derrin Lough, Carr., King's	20th Aug.	20th Oct.	Champion	5 12 50	1 2 50	7 15 50

Barograph on which Demonstrations in the application of Bordeaux Mixture to the Potato Plant for the Mr. J. H. McCONNELL, Assistant Commissioner, and Mr. J. P. ADAMS.

Yield per Statute Acre of Second Potatoes on Unsprayed Plots			Increased Yield per Statute Acre (Tons) of Second Potatoes on Sprayed as compared with Unsprayed Plots			Remarks at time of digging
Marketable	Small	Total	Marketable	Small	Total	
T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.	T. O. L.	
2 11 45	1 13 8	13 1 45	5 7 25	—	5 7 25	Tubers much greener on the sprayed than on the unsprayed plot. Practically no damaged potatoes on the sprayed plot, whereas there were twenty-one on the first one on the unsprayed plot.
4 13 30	1 5 56	6 4 22	0 4 32	—	0 4 32	No appreciable difference in the appearance of the plots or in the quality of the produce.
2 17 15	1 1 45	4 33 35	2 2 35	(Decrease)	2 1 45	—
4 11 45	1 11 48	5 2 35	2 4 32	—	2 4 32	Tubers very green on the sprayed plot and completely withered on the unsprayed plot. The potatoes were well growing, and the reason due to weather and probably be much greater in three weeks if frost does not intervene. This is the only plot that was sprayed on two distinct occasions.
4 4 32	1 1 05	5 2 35	1 15 30	0 8 54	2 4 32	No difference in the appearance of the plots. Tubers much sounder on sprayed plot.
6 4 32	1 35 24	5 2 36	2 13 32	(Decrease)	2 13 45	Very little difference in the quality of the produce, more damaged potatoes on the unsprayed than on the sprayed plot.
5 14 32	1 13 30	10 18 0	0 35 30	0 22 54	1 14 32	Quality of the tubers much the same on both plots, but many more diseased potatoes from the unsprayed plot.
5 12 30	0 17 15	4 18 0	0 35 34	0 2 30	3 1 45	Very few diseased tubers in either plot. Heavy rain fell for many hours on the night following the day on which this plot was sprayed.
5 0 0	1 8 8	6 0 0	3 1 45	0 2 35	3 4 22	A considerable quantity of damaged potatoes on the unsprayed plot, very few on the sprayed.
5 0 0	2 0 2	7 0 0	3 5 44	—	3 5 36	Little difference in the quality of the produce on either plot.
4 13 44	1 11 42	6 30 0	2 13 35	(Decrease)	2 7 35	Many more diseased potatoes on the unsprayed than on the sprayed plot. Much rain fell immediately after spraying.
3 1 45	1 7 13	9 8 54	2 11 43	—	2 11 43	Foliage fairly green on sprayed plot and quite withered on the unsprayed. Quality of produce much the same on both plots but rather more diseased potatoes from unsprayed plot.
7 4 32	1 4 32	8 8 54	4 7 15	0 5 30	4 12 35	Foliage on the sprayed plot very green; that on the unsprayed plot completely withered. Quality of produce on sprayed much superior to that on unsprayed plot. The spraying was done with special care in this case.
7 5 30	1 1 45	8 7 15	3 13 41	0 1 45	4 0 8	The foliage on the sprayed plot quite green, that on the unsprayed decayed. Quality of produce on sprayed much superior to that on unsprayed plot, as disease in the former, but a considerable amount on the latter.
6 2 30	0 15 54	7 4 32	3 2 30	—	3 2 35	Foliage of sprayed plot still green, whereas that of unsprayed had withered.
7 12 30	1 9 0	8 12 30	1 14 32	(Decrease)	1 8 54	Very few diseased potatoes in either plot. The foliage on the sprayed plot was much greener, and diseased green much longer than that on the unsprayed plot. The potatoes were sprayed on a very wet day.
5 5 54	1 2 30	6 11 45	0 4 32	(Decrease)	(Decrease)	Foliage much greener on the sprayed than on the unsprayed plot. Very wet weather immediately after spraying.
6 14 32	1 14 35	7 5 54	1 16 32	(Decrease)	1 11 45	Quality of the produce much the same on both plots.
7 5 30	1 14 32	9 9 0	5 1 45	(Decrease)	4 15 54	The tubers were still growing on the sprayed plot, but growth had ceased on the unsprayed plot. The quality of the tubers from the sprayed plot was much better, and showed less diseased potatoes than from the unsprayed plot.
6 7 15	1 2 54	7 10 0	2 5 30	0 5 30	3 11 45	Foliage on sprayed plot possibly greener than that on the unsprayed plot.
7 9 54	1 5 30	9 15 32	0 13 54	0 1 45	1 0 0	No difference in the appearance of either plot, a considerable quantity of diseased potatoes in the produce of each plot. Considerable difficulty was experienced in spraying the foliage here, it being very thick and tangled across the drills.
5 0 0	1 25 30	6 15 35	3 18 54	—	5 18 54	—
7 7 35	0 25 30	8 2 35	1 9 0	0 3 30	1 2 30	No difference perceptible in the foliage of the plots. Many more diseased potatoes on the unsprayed plot, the produce of which was much coarser than, and inferior in quality to that of the sprayed plot.
4 12 30	0 14 35	5 7 15	1 4 32	0 5 30	1 10 0	No difference in appearance between sprayed and unsprayed plots. Produce of sprayed plots much better in quality than that of the unsprayed plots, and contained fewer diseased potatoes.
7 18 54	1 1 45	9 0 0	—	0 1 45	—	No difference in appearance of the two plots. Produce of sprayed plot much better in quality than produce of unsprayed, otherwise little difference observable. Unfortunately, some plants found their way into the plots and sprouted some stalks, which the tubers; the results obtained by weighing the produce were thus rendered slightly inaccurate.

DUBLIN: Printed for Her Majesty's Stationery Office,
By ALLEN THOMES & Co. (Limited), 27, 28, & 29, Abchurch-lane,
The Queen's Printing Office.